The slit of the spectrograph was placed across the brightest portion of Condensation D.

The resulting negative showed a very faint spectrum, which, after careful consideration and some experiments, was deemed to be that of the nebulosity. So far as can be told from such small dispersion and intensity, the spectrum is continuous, with the greater portion of the light condensed in a band between $H_\beta$ and $H_\gamma$. This band is strongest just above $H_\beta$ and from this point fades gradually until it is entirely lost in the $H$ and $K$ calcium region. Beyond this point, up in the ultra-violet region, there is a very slight increase of strength again.

It is suspected that in one or two cases there may be traces of bright lines, but the whole spectrum is so faint as to preclude any definite deduction on this point.

The above observation shows that the spectrum of this mass of nebulosity is not the ordinary bright-line spectrum of the nebulæ. The spectrum observed may correspond to that of the *Nova* at some epoch in its recent history, although that seems doubtful, from the fact that since July, 1901, (at least,) practically all the light of the *Nova* has been confined to a few lines. The faintness of the spectrum of the nebulosity makes it difficult to decide this point. C. D. PERRINE.

1903, January 13.

## RED SUNSETS AT MT. HAMILTON.

Since the outburst of Mont Pelée in May last, the sunsets have been watched to see if there would be any such effects as were observed after the Krakatoa eruption of 1883. An augmentation of color was suspected in August and September, but as there was considerable smoke from forest fires in the lower atmosphere at that time, it was thought that that might be the cause. For several weeks past the atmosphere has been very transparent, owing to frequent rains and fogs, and favorable, therefore, for the detection of any unusual color due to dust in the upper atmosphere.

On many cloudless evenings a very perceptible deepening of color has been observed. The band near the horizon has been of a very deep crimson, and some color has usually been visible almost to the zenith. The tints are very clear and pure

much more so that those usually resulting from smoke in the lower atmosphere. On several occasions the morning sky has shown some such effect, but much less marked than in the evening.

The recent sunsets are in no way comparable with the magnificent effects of 1883.

It is not possible to connect these appearances with certainty with the Martinique eruption or that in Guatemala. The surface currents in the atmosphere are contrary in both cases. Unless the matter was brought by reverse currents in the high atmosphere, it must have traveled almost around the globe. It is impossible, for reasons given above, to trace a relation by means of time. C. D. P.

1903, January 10.

## Grant from the Carnegie Institution.

The Carnegie Institution has made a grant of $4,000 to the Lick Observatory for the present fiscal year of the Institution, to be expended in the employment of assistants and computers.

W. W. Campbell.

## Elements of Comet *d* 1902.

From my observations of December 5 and December 30, 1902, and January 17, 1903, I have computed the following set of parabolic elements of Comet *d* 1902:—

$T =$ 1903, March 23.27958 G. M.T.

$\omega = 5^\circ\ 45'\ 4''.4$

$\Omega = 117\ 28\ 0\ .0$ } 1903.0

$i = 43\ 53\ 57\ .9$

$\log q = 0.443156$

Residuals (O − C):—

$\Delta\lambda' \cos\beta' = -3''.6\ ;\ \Delta\beta' = -3''.1$

Constants for the Equator of 1903.0:—

$X = r\ [9.896716] \sin (221^\circ\ 33'\ 31''.7 + v)$

$Y = r\ [9.999990] \sin (131\ 15\ 44\ .4 + v)$

$Z = r\ [9.789065] \sin (\ 40\ 46\ 31\ .3 + v)$

R. G. Aitken.